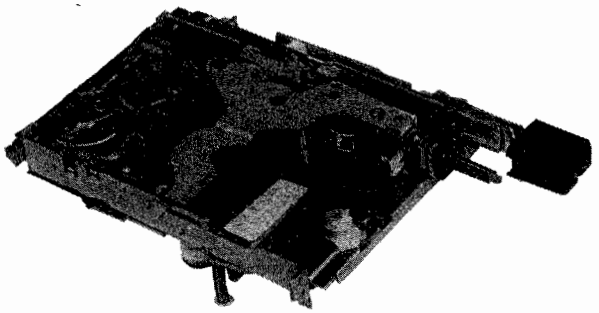
2641

Auto cassette deck D9-2

Service
Service
Service



28 759A12

Service Manual

12V

(GB) Deck D9-2 is identical with deck D9-1, except for the following changes:
Item no. 56 is coded 4822 255 20096, however with no red LED.
Item no. 1701 red LED 4822 130 31398.

(NL) Met uitzondering van onderstaande wijzigingen is D9-2 gelijk aan D9-1 deck:
Pos. 56 wordt 4822 255 20096 echter zonder rode LED.
Pos. 1701 LED rood 4822 130 31398.

1662

(F) Exception faite des modifications ci-dessous, la mécanique du D9-2 est pareille à celle du D9-1:
Le code du rep. 56 devient 4822 255 20096 ce pendant sans LED rouge.
Rep. 1701 LED rouge - 4822 130 31398.

(D) Nachstehende Änderungen unbeachtet, ist Deck D9-2 gleich Deck D9-1:
Pos. 56 wird 4822 255 20096, jedoch ohne rote Leuchtdiodenanzeige;
Pos. 1701 Leuchtdiode (rot) 4822 130 31398.

(I) Eccetto le modifiche di cui sotto, il meccanismo del D9-2 è uguale a quello del D9-1:
Codice della pos. 56 diventa: 4822 255 20096 ma senza LED rosso.
Pos. 1701 - LED rosso - 4822 130 31398.

Documentation Technique Service Dokumentation Documentazione di Servizio Huolto-Ohje Manual de Servicio Manual de Serviço

Subject to modification

4822 725 15022

Printed in The Netherlands

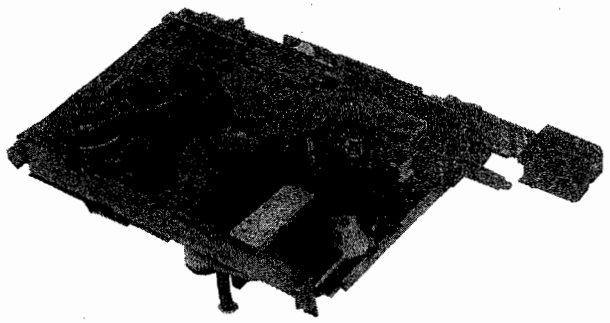
CS 83 917

2641

16668

Auto Cassette deck D9-1

Service
Service
Service



28 759A12

Service Manual

12 V

(GB) TECHNICAL DATA

Tape speed	: 4,76 cm/sec ±2%
Wow & flutter	: ⩽ 0,35%
Operating voltage	: 14,4 V
Fast winding time	: ⩽ 120 secs (C-60)
V_0 (cass. TC-FR/315 Hz)	: ⩾ 400 mV

(NL) TECHNISCHE GEGEVENS

Bandsnelheid	: 4,76 cm/sec, ±2%
Wow & flutter	: ⩽ 0,35%
Werkingsspanning	: 14,4 V
Tijd snel opspoelen	: ⩽ 120 sec (C-60)
V_u (cass. TC-FR/315 Hz)	: ⩾ 400 mV

(F) CARACTERISTIQUES TECHNIQUES

Vitesse de défilement	: 4,76 cm/sec, ±2%
Pleurage et scintillement	: ⩽ 0,35%
Tension de fonctionnement	: 14,4 V
Durée de bobinage rapide	: ⩽ 120 sec (C-60)
V_{sortie} (cass. TC-FR/315 Hz)	: ⩾ 400 mV

(D) TECHNISCHE DATEN

Bandgeschwindigkeit	: 4,76 cm/sec, ±2%
Gleichlaufschwankungen	: ⩽ 0,35%
Betriebsspannung	: 14,4 V
SVL-Dauer	: ⩽ 120 s (mit C60-Cassette)
V_a (Cass. TC-FR/315 Hz)	: ⩾ 400 mV

(I) DATI TECHNICI

Velocità di trascinamento	: 4,76 cm/sec. ±2%
Wow e flutter	: ⩽ 0,35%
Tensione di lavoro	: 14,4 V
Tempo di avvolgimento	: ⩽ 120 sec (C-60)
V_{uscita} (cass. TC-FR/315 Hz)	: ⩾ 400 mV

DocumentationTechnique Service Dokumentation Documentazione di Servizio Huolte-Ohje Manual de Servicio Manual de Serviçio

"Pour votre sécurité, ces documents doivent être utilisés par des spécialistes agréés, seuls habilités à réparer votre appareil en panne".

Subject to modification
4822 725 14685
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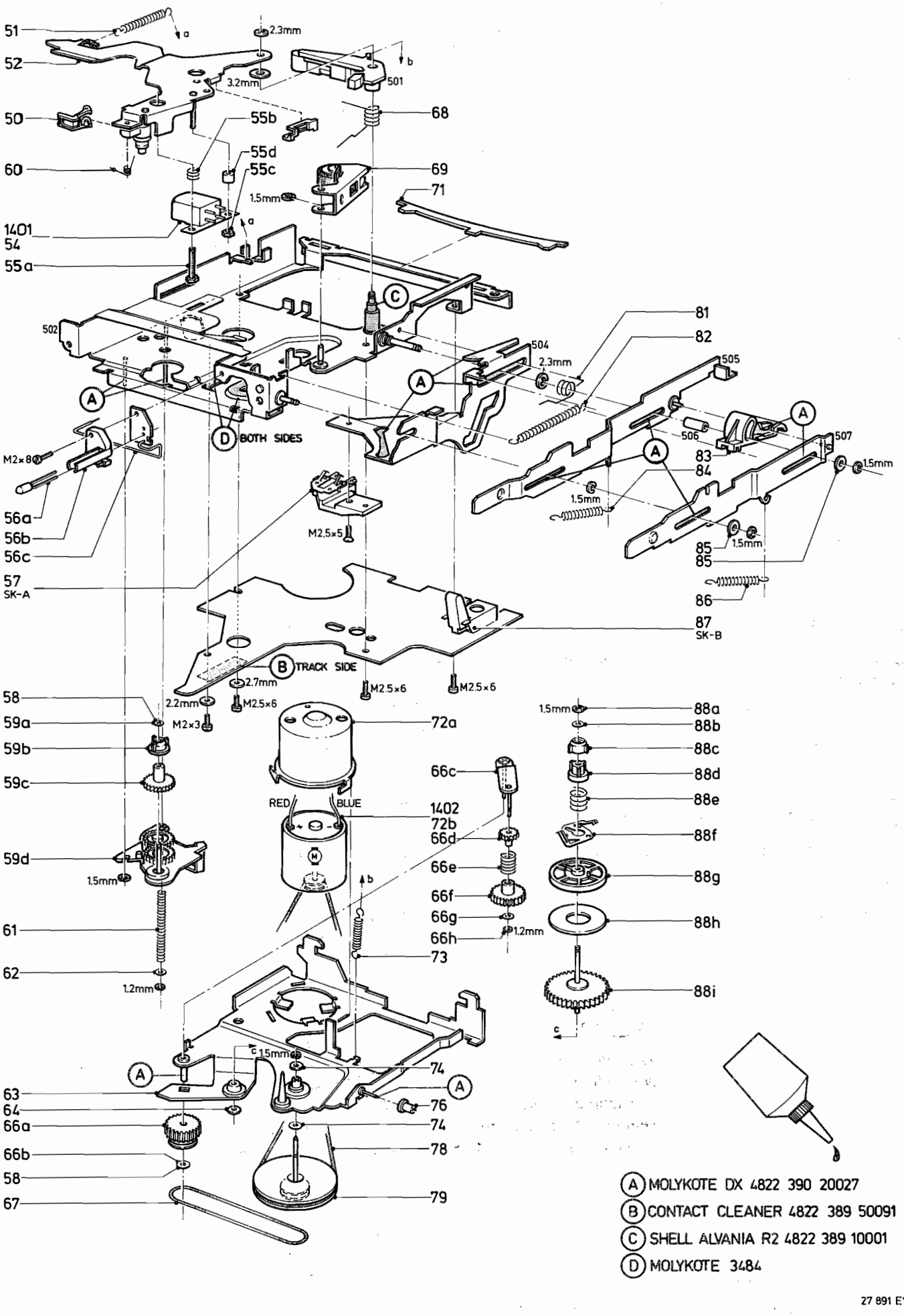

51
52
50
60
1401
54
55a
55b
55d
55c
68
69
71
1.5mm
2.3mm
3.2mm
501
502
504
505
506
507
81
82
83
84
85
86
87
SK-A
SK-B
BOTH SIDES
TRACK SIDE
M2×8
56a
56b
56c
57
M2.5×5
2.7mm
2.2mm
M2×3
M2.5×6
58
59a
59b
59c
59d
61
62
1.2mm
72a
72b
1402
RED
BLUE
66c
66d
66e
66f
66g
66h
73
74
76
78
79
63
64
66a
66b
67
88a
88b
88c
88d
88e
88f
88g
88h
88i
A MOLYKOTE DX 4822 390 20027
B CONTACT CLEANER 4822 389 50091
C SHELL ALVANIA R2 4822 389 10001
D MOLYKOTE 3484

27 891 E12

(D) EINSTELLUNGEN

Benötigte Messgeräte:

— Universal-Testcassette SBC133 4822 397 30039
— Wechselspannungs-Millivoltmeter

Azimut

Einstellung soll mit komplettem Autoradio stattfinden.
— Millivoltmeter an Lautsprecherbuchsen schalten.
— Testcassette einlegen und das 8-kHz-Signal wiedergeben.
— Mit schraube 55a die Ausgangsspannung so einstellen, dass sie für sowohl den linken als auch den rechten Kanal gleich ist und den Höchstwert aufweist.
— Schraube 55a lacksichern.

KONTROLLEN

Benötigte Messgeräte:

— Friktionstestcassette (811/CTM) 4822 395 30054
— Universal-Testcassette SBC133 4822 397 30039
— Gerät zum Messen der Tonhöhen schwankungen ("wow & flutter")

1. Reibkupplung 88, Abb. 1

— Friktionstestcassette (811/CTM) einlegen.
— Die VL-Friktion soll 45-60 p/cm betragen.
Nicht oder unregelmässig wickeln des Bandes in der Cassette ist auf folgende Ursachen zurückzuführen:
a. Zu viel Reibung in der Cassette
b. Zu geringe Reibungskraft beim Aufwickeln
Erst muss Mitnehmer 88c verdreht werden (Abb. 1).
Sollte dies nicht ausreichen, dann ist Rutschkupplung 88 zu ersetzen.

2. Tonhöhenschwankungen/Bandgeschwindigkeit

Die Kontrolle soll mit komplettem Autoradio erfolgen.
— Gerät zum Messen der Tonhöhenschwankungen an den Lautsprecherausgang schalten.
— Testcassette SBC133 einlegen und das 3150-Hz-Signal wiedergeben.
— Der Jaulwert soll $\leqslant$ 0,35% sein.
— Die Bandgeschwindigkeit soll 4,76 m/s (±2%) sein.
— Die Geschwindigkeit lässt sich mit R3417 einstellen.
Bei einem übermässigen Jaulwert sollen folgende Bauteile auf ihr richtiges Funktionieren geprüft werden.

— Motor
— Andruckrolle
— Pese (beim Auswechseln die Seilrollen reinigen)
— Reibkupplung
— Schwungrad

3. Für übrige Einstellungen siehe Abbn. 2 bis 4

Es empfiehlt sich regelmässig W-Kopf, Andruckrolle und Tonwelle mit Alkohol zu reinigen.

(I) REGOLAZIONI

Strumenti richiesti:

— Cassetta campione SBC133 4822 397 30039
— Millivoltmetro AC

Azimuth

La regolazione deve essere effettuata sul riproduttore collegato all'autoradio.
— Collegare un millivoltmetro all'uscita per altoparlante
— Inserire la cassetta SBC133 e riprodurre il segnale a 8 kHz
— Ruotare la vite 55a finchè la tensione letta per entrambi i canali sia la più elevata.
— Fissare con lacca la vite 55a.

CONTROLLI

Strumenti richiesti

— Cassetta campione per la frizione (811/CTM) 4822 395 30054
— Cassetta campione universale SBC133 4822 397 30039
— Strumento wow e flutter

1. Forza della frizione 88, Fig. 1

— Inserire la cassetta della frizione (811/CTM)
— La forza di frizione deve essere compresa tra 45 ÷ 60 gr/cm
In caso di non avvolgimento o di avvolgimento irregolare del nastro nella cassetta ci possono essere tre ragioni:
a. Troppo attrito nella cassette
b. Frizione insufficente
Il pezzo di trascinamento 88c deve essere girato (Fig. 1). Se non basta ancora, sostituire la coppia di frizione 88.

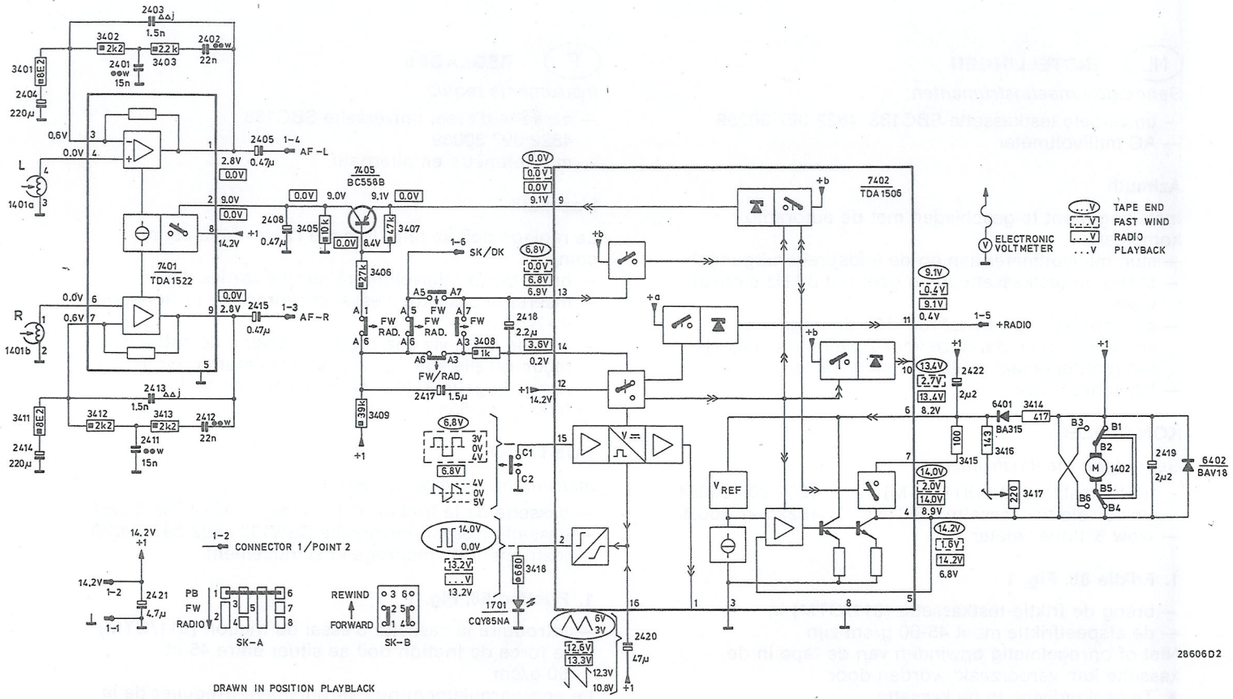
2. Wow e Flutter/velocità del nastro

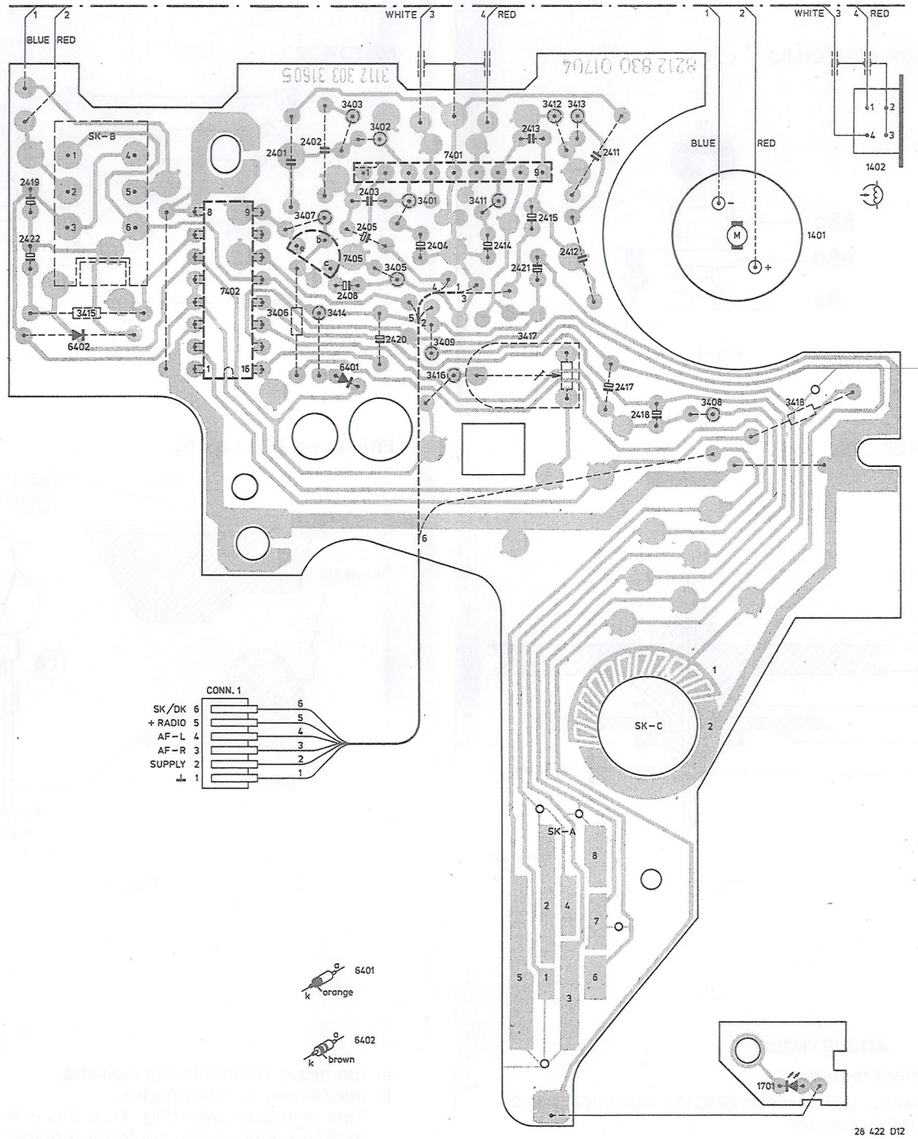
Questo controllo deve essere effettuato sul riproduttore collegato all'autoradio
— Collegare un misuratore di Wow en Flutter all'uscita per altoparlante
— Insetire la cassetta campione SBC133 e riprodurre il segnale a 3150 Hz
— Il valore di Wow e Flutter deve essere $\leqslant$ 0,35%
— La velocità deve essere 4,76 cm/sec (±2%)
— Regolare la velocità tramite R3417
Nel caso ci sia un valore eccessivo di Wow e Flutter, bisogna controllare le seguenti parti se funzionano in modo corretto:

— Motore
— Rullo pressore
— Cinghia di trascinamento (nel caso di sostituzione, pulire le puleggie)
— Frizione
— Volano

3. Per le altre regolazioni, vedere Fig. 2-4

Consigliamo di pulire periodicamento la testina di cancellazione, il rullo pressore e il capstan con alcool.





MECHANICAL PARTS

50	4822 403 51692	68	4822 492 51448
51	4822 492 32121	69	4822 528 70321
52	4822 403 51678	71	4822 492 62559
55	4822 310 10148	73	4822 492 32115
56	4822 255 30077	74	4822 532 51264
57	4822 277 20761	76	4822 532 10765
58	4822 532 50692	78	4822 358 30261
59	4822 403 51683	79	4822 528 60169
60	4822 492 40974	81	4822 492 62558
61	4822 492 51446	82	4822 492 51447
62	4822 532 51319	83	4822 403 51679
63	4822 403 51681	84	4822 492 32116
64	4822 532 50268	86	4822 492 32117
66	4822 403 51682	87	4822 277 20759
67	4822 358 30335	88	4822 528 20347

ELECTRICAL PARTS

Capacitors			
2404	220 uF	50% 10 V	4822 124 40181
2405	470 nF	50% 63 V	4822 124 40239
2408	470 nF	50% 63 V	4822 124 40239
2414	220 uF	50% 10 V	4822 124 40181
2415	470 nF	50% 63 V	4822 124 40239
2417	1,5 uF	50% 63 V	4822 124 40243
2418	2,2 uF	50% 63 V	4822 124 40244
2419	2,2 uF	50 V	4822 124 40459
2420	47 uF	50% 63 V	4822 124 40253
2421	4,7 uF	50% 63 V	4822 124 40246
2422	2,2 uF	50 V	4822 124 40459
Resistors			
3414	417 E	0.5% 0,4 W	4822 116 51486
3415	100 E		4822 110 73081
3416	143 E	1% 0,4 W	5322 116 54485
3417	220 E		4822 100 10469
Semiconductors			
6401	BA315		4822 130 30843
6402	BAV18		4822 130 30899
7401	TDA1522 PRE-AMP		4822 209 81178
7402	TDA1506 Motor contr.		4822 209 81177
7405	BC558B		4822 130 44197
MISCELLANEOUS			
1401	Head, playback		4822 249 10125
1402	Motor		4822 361 20261

0.2 W (CR16)	⩽220 kΩ	5%	Ceramic plate
	>270 kΩ	10%	
0.33 W (CR25)	⩽1 MΩ	5%	Polyester flat foil
	>1 MΩ	10%	
0.33 W (SFR25)		5%	Polyester mepolesco
0.25 W (VR25)	⩽10 MΩ	5%	Mylar (Polyester flat foil small sized)
	>10 MΩ	10%	
0.5 W (CR37)	⩽1 MΩ	5%	Micropoco
	>1 MΩ	10%	
0.67 W (CR52)		5%	Tubular ceramic (body colour pink or yellow/green)
1.15 W (CR68)		5%	Miniature single elco
			Subminiature tantalum cap.

*a = 2,5 V
b = 4 V
c = 6,3 V
d = 10 V
e = 16 V
f = 25 V
g = 40 V
h = 63 V
j = 100 V
l = 125 V
m = 150 V
n = 160 V
q = 200 V
r = 250 V
s = 300 V
t = 350 V
u = 400 V
v = 500 V
w = 630 V
x = 1000 V
A = 1,6 V
B = 6 V
C = 12 V
D = 15 V
E = 20 V
F = 35 V
G = 50 V
H = 75 V
I = 80 V

27037A/B

Service
Service
Service Information

1982-10-22

Car Cassette Deck D9

A82-340

Corrections of the Service Manual

Add: Code number of item 85-4822 532 11057

Changes in the course of production:

- At the start of production, 2419 and 2422, 2.2 µF-16 V tantalum, were changed to 2.2 µF-50 V mini-electrolytic capacitor. For Service the tantalum electrolytics mentioned in the Manual can be used. Furthermore a 2.6 mm pressure washer was added underneath the screws for fixation of the PCB.
- Also spring 70-4822 492 62843 was added to the bearing for spindle 88.
  Reason: to prevent the belt from running off pulley 66a.
- In week 214 the following items were
  deleted: 2401, 2403, 2411, 2413
  added: 2406, 2416 (1.8 nF △△j) between point 4 (point 6 resp.) of IC7401 and ground.
  changed: 3403, 3413 changed to 5.6 k.
  Reason: To prevent engine voltage peaks from getting to the inputs of the IC via the capacitors.
  In week 226 the diameter of flywheel 79 was enlarged and furthermore spring 70 was deleted.
  Reason: to increase the winding torque.
- In week 234 the bolt on bracket 52 was replaced by a riveted spacer, nut 55c by a cylindrical screw M2x6, and was a pressure washer of 2,1 mm added. Furthermore spacer 55d was deleted.
  Reason: introduction of fixed head height.
  Note: The stock of head bracket 52 with bolt will be used up. For Service mounting kit 55 for head 54 will remain unchanged.
- In week 237 the 1,2 mm clamping ring, situated on the spindle with spring 61, was replaced by plastic ring 65-4822 532 50262. Furthermore the 1.5 mm clamping ring for fixing item 59 to the tape deck, was replaced by plastic ring 64-4822 532 50268.
  Reason: to simplify assembly.
  Furthermore pulley 66a was changed (larger diameter and flange).
  Reason: to increase the winding torque and for reinforcement.

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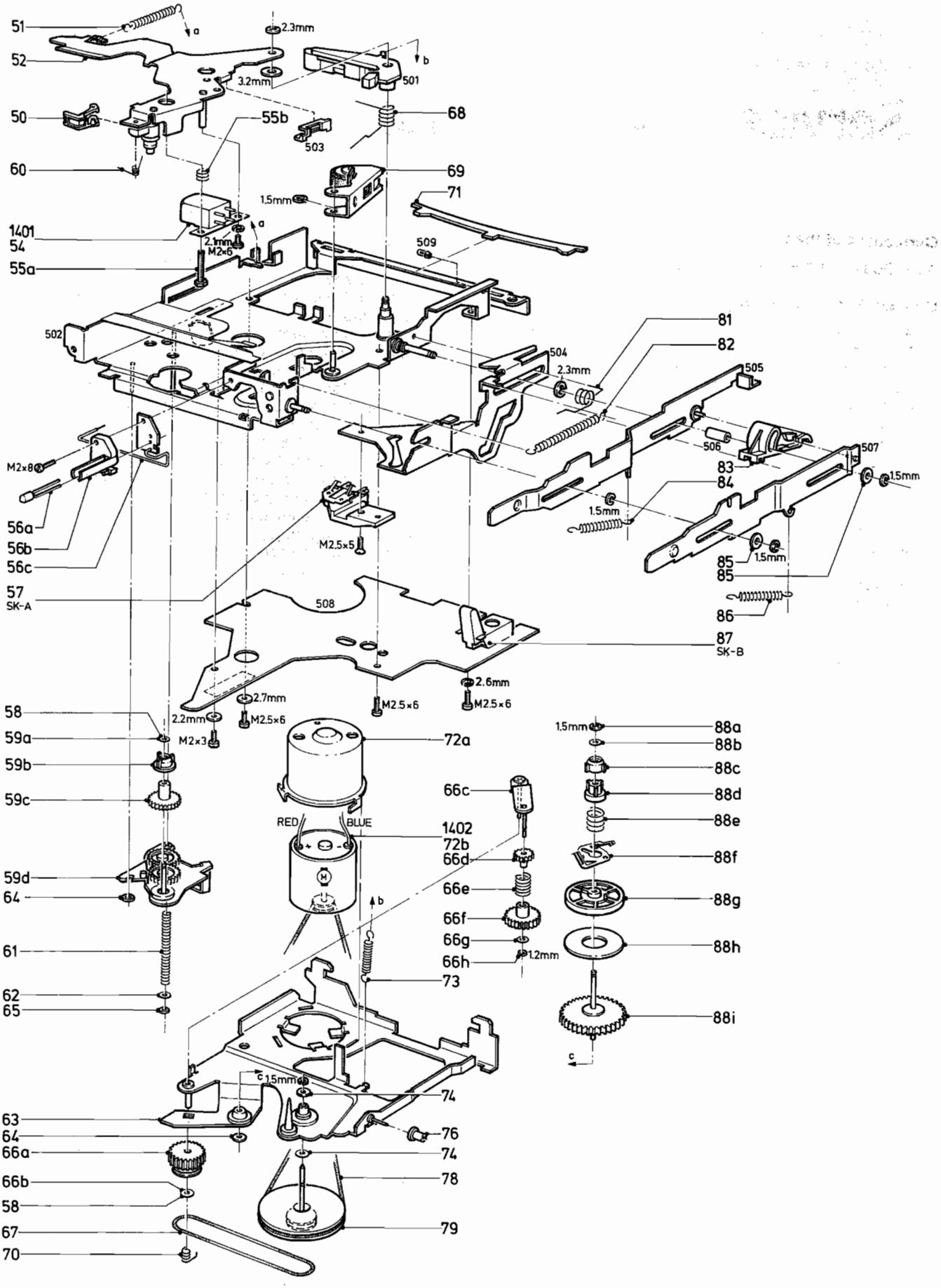
51
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1401
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SK-B
56a
56b
56c
57
SK-A
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59a
59b
59c
59d
64
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66a
66b
67
70
72a
1402
72b
66c
66d
66e
66f
66g
66h
73
74
76
78
79
88a
88b
88c
88d
88e
88f
88g
88h
88i
501
502
503
504
505
506
507
508
509
2.3mm
3.2mm
1.5mm
2.1mm
M2×6
M2×8
M2.5×5
2.7mm
2.2mm
M2×3
M2.5×6
2.6mm
1.2mm
RED
BLUE

Service
Service
Service Information

83-12-21

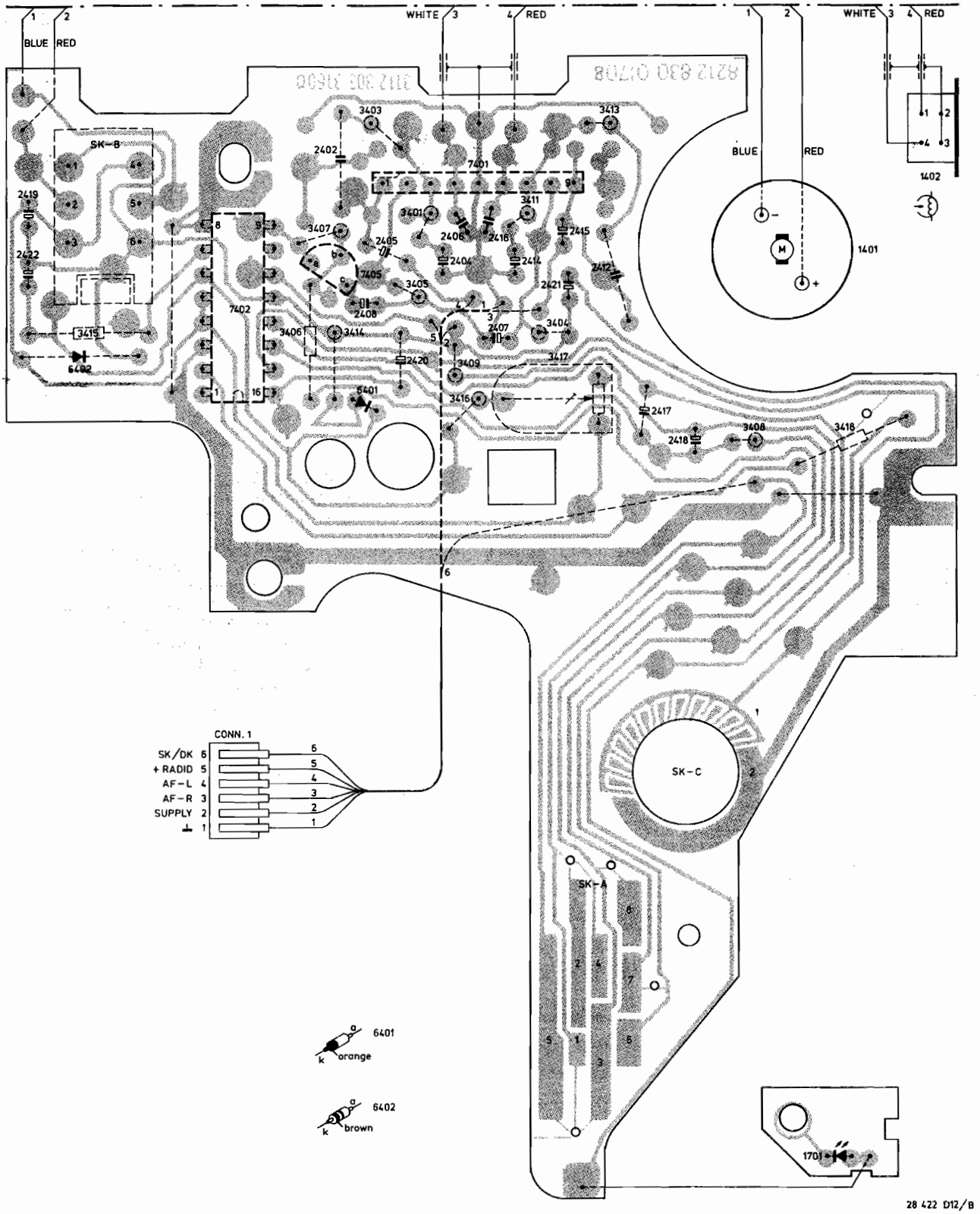
D9 Tape-deck

A83-339

Previously published: A82-340

Changes introduced in the course of production:

- Flywheel 79 has been changed in a plastic version. The metal and plastic flywheels can be interchanged without any problem.
  Reason: Simplification of the production.
- Under change code AH01252 the following items have been added to version D9-1: 3404 (150E ■) between 8-7401 and +1 and 2407 (33 μF oe) between junction 8-7401/3404 and ground.
  Reason: Improving the smoothing of the supply voltage.
- In week 252 the groove diameter of the small pulley of flywheel 79 was enlarged.
  Reason: Improving the take-up function (bigger torque).
- Approx 2000 decks of the D9-1 version have been provided with a new playback head, code number 4822 249 10195.
  At the same time the value of 2406 and 2410 has been adapted (1,2 nF); see also A82-340.
  These tape-decks can be recognized by change code AH02.
  Reason: Field test of new playback head.
- In week 321 (for D9-1) and week 322 (for D9-2), winding brackets 505 and 507 were changed.
  Reason: Avoiding that the keys become out of true.
- In week 323, LED 1701 in version D9-1 was changed in type LN28RPL (4822 130 32087).
  Reason: Delivery problems.
  Furthermore item no. 56 has been changed for Service in 4822 255 20096. Under this code number only the LED holder (item no. 56b in exploded view 27891E) is being supplied.
  Reason: Standardization.
- In week 325 frinction 38 was changed (with change code AH03 in D9-1 and AH01 in D9-2) in 4822 528 20381. Furthermore the PCB near the commutator was changed.
  Reason: Improving the functioning


BLUE
RED
WHITE
RED
BLUE
RED
WHITE
RED
1402
1401
SK-B
SK-C
SK-A
7401
7402
7405
3403
3413
2402
3401
3411
3407
2405
2406
2416
2415
2404
2414
2412
2421
3405
2408
3406
3414
2407
3404
2420
3409
3417
3416
6401
2417
2418
3408
3418
2419
2422
3419
6402
CONN. 1
SK/DK 6
+ RADID 5
AF-L 4
AF-R 3
SUPPLY 2
1
6401
orange
6402
brown
1701
28 422 D12/B

FRICTION CLUTCH 88

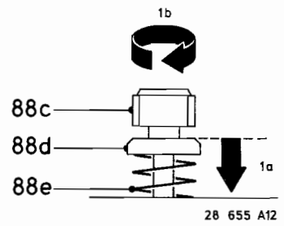


Fig. 1

MOTOR 72

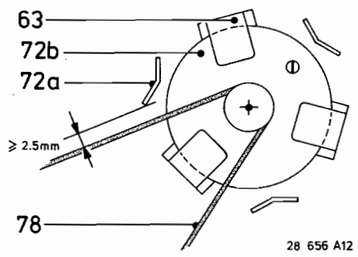


Fig. 2

FLYWHEEL 79

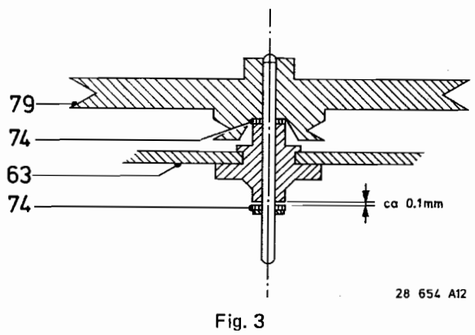


Fig. 3

PRESSURE ROLLER 69

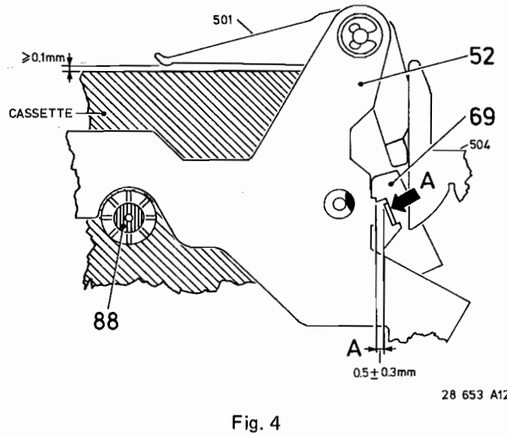


Fig. 4

(GB) ADJUSTMENT

Equipment required:

— Universal test cassette SBC133 4822 397 30039
— AC millivoltmeter

Azimuth

Alignment should be carried out on a complete car radio.
Connect the millivoltmeter to the loudspeaker outputs.
— insert test cassette and play the 8 kHz signal.
— turn screw 55a for equal and maximum output voltage reading for both the LH and RH channel.
— lockpaint screw 55a.

CHECKS

Equipment required:

— friction test cassette (811/CTM) 4822 395 30054
— universal test cassette SBC133 4822 397 30039
— wow & flutter meter

1. Friction clutch 88, Fig. 1

— insert friction test cassette (811/CTM)
— play take-up torque should be between 45 and 60 g/cm
No winding or irregular winding of the tape in the cassette may be caused by:

a. too heavy friction in the cassette
b. insufficient winding friction
First turn catch 88c (Fig. 1). If this is insufficient, friction coupling 88 should be replaced.

2. Wow & flutter/tape speed

This check is carried out on a complete car radio
— connect the wow & flutter meter to the L.S. outputs
— insert cassette SBC133 and play the 3150 Hz signal
— the wow & flutter value should be ⩽ 0,35%
— tape speed should be 4,76 cm/sec (±2%)
— the speed is adjusted with R3417
In the event of an excessive wow and flutter value, the following parts should be checked as to correct functioning:

— motor
— pressure roller
— drive belts (in case of replacement, clean pulleys)
— friction clutch
— flywheel

3. For the other adjustments see Fig. 2 through 4

It is advisable to clean the playback head, the pressure roller and the capstan with alcohol periodically.

(NL) INSTELLINGEN

Benodigde meetinstrumenten:

— universele testkassette SBC133 4822 397 30039
— AC millivoltmeter

Azimuth

Instelling dient te geschieden met de autoradio kompleet.
— sluit millivoltmeter aan op de luidsprekeruitgangen
— breng de testkassette in en geef het 8 kHz signaal weer
— stel met behulp van schroef 55a de uitgangsspanning zo in, dat deze voor zowel het linker-als het rechterkanaal gelijk en maximaal is.
— lak schroef 55a

KONTROLES

Benodigde meetinstrumenten:

- friktie testkassette (811/CTM) 4822 395 30054
— universele testkassette SBC133 4822 397 30039
— wow & flutter meter af

1. Friktie 88, Fig. 1

— breng de friktie-testkassette (811/CTM) in
— de afspeelfriktie moet 45-60 g/cm zijn
Niet of onregelmatig opwinden van de tape in de kassette kan veroorzaakt worden door:
a. Te veel wrijving in de kassette
b. Te geringe opspoelfriktie.
Eerst moet meenemer 88c verdraaid worden (Fig. 1). Is dit onvoldoende dan moet friktiekoppeling 88 vervangen worden.

2. Wow & flutter/bandsnelheid

De kontrole dient te geschieden met de autoradio kompleet:
— sluit wow & flutter meter aan op de LS-uitgangen
— breng de testkassette SBC133 in en geef het 3150 Hz signaal weer
— de jengelwaarde moet ⩽ 0,35% zijn
— de bandsnelheid moet zijn 4,76 cm/sec (±2%)
— de snelheid kan met R3417 worden ingesteld
Bij een buitensporige jengelwaarde dienen de volgende onderdelen op hun juiste werking te worden gekontroleerd:

— motor
— drukrol
— snaren (bij vervanging de poelies schoonmaken)
— friktiekoppeling
— vliegwiel

3. Voor de overige instellingen zie de figuren 2 t/m 4

Aangeraden wordt, om periodiek de W-kop, de drukrol en de toonas te reinigen met alcohol.

(F) REGLAGES

Instruments requis

— cassette d'essai universelle SBC133 4822 397 30039
— millivoltmètre en alternatif

L'azimuth

Le réglage doit se faire lorsque l'auto-radio est au complet.
— brancher le millivoltmètre sur les sorties d'h.p.
— insérer la cassette d'essai et reproduire le signal de 8 kHz
— à l'aide de la vis 55a régler la tension de sortie de façon qu'elle soit égale et au maximum pour le canal de gauche tout comme celui de droite
— fixer la vis 55a à la laque.

CONTRÔLES

Instruments de mesure requis:

— cassette de la friction (811/CTM) 4822 395 30054
— cassette d'essai universelle SBC133 4822 397 30039
— instrument du pleurage et scintillement

1. Friction 88, Fig. 1

— introduire la cassette d'essai de friction (811/CTM)
— la force de friction doit se situer entre 45 et 60 g/cm
Le non-enroulement ou l'enroulement irrégulier de la bande dans la cassette peut être dû à:
a. Trop de frottement dans la cassette
b. Une friction insuffisante
Il faudra tourner la pièce d'entrainement 88c (Fig. 1). Si ceci est insuffisant il faudra remplacer couple de friction 88.

2. Pleurage et scintillement/vitesse de défilement

Le contrôle doit se faire lorsque l'auto-radio est au complet:
— brancher l'instrument du pleurage sur la sortie d'h.p.
— introduire la cassette d'essai SBC133 et reproduire le signal de 3150 Hz
— la valeur de pleurage doit être ⩽ 0,35%
— la vitesse de défilement doit être 4,76 sec. ±2%
— la vitesse est réglable avec R3417
Si le taux de pleurage s'écarte de la valeur type, il faudra vérifier le fonctionnement des composants suivants:

— moteur
— galet presseur
— courroie d'entrainement (en cas de remplacement, nettoyer les poulies)
— couple de friction
— volant

3. Voir Fig. 2 à 4 pour ce qui est des autres réglages

Il est conseillé de nettoyer régulièrement la tête reproduction, le galet presseur et le cabestan à l'alcool.

Service
Service
Service

Information

1984-12-14

Auto cassette deck D9

A84-353

Previously published: A82-340, A83-339

Changes introduced in the course of production

- With code AH02 playback head 1401 has been changed to 4822 249 10195.
  Furthermore, the value of 2406 and 2416 has been changed to 1.5 nF.

  Reason: delivery problems.

- As of week 431 switch SK-A has been changed.

  Reason: to prevent the contact spring from scraping. The stock of Concern Service has been adapted.

- With code AH03437 (in D9-1 and D9-2), AH04437 (in D9-3) the material of belt 67 has been changed.

  Reason: prevention of static charging. The stock of Concern Service has been adapted.

Service
Service
Service **Information**

1986-08-22

Auto cassette deck D9

A86-328

Previously published: A82-340, A83-339, A84-353

Changes introduced in the course of production

- With code AH05 playback head 1401 has been changed to 4822 249 30093.
  Furhtermore, the value of 2406 and 2416 has been changed to 1.2 nF.

  Reason: better quality

Service Information

	1989-04-07
	Car cassette deck D9
	A89-305

Product Service Group CE Audio

Due to delivery problems item 66 (4822 403 51682) will be supplied without gearwheel 66a and ring 66b. Our existing stock will be exhausted.